

IN THE CLAIMS:

1. (original) A protective gas consisting of a cold gas for the non-vacuum electron-beam welding of metallic materials, particularly light metals.
2. (original) The protective gas according to Claim 1, characterized in that the cold gas consists of inert gas.
3. (original) The protective gas according to Claim 2, characterized in that the inert gas is preferably helium.
4. (original) The protective gas according to Claim 1, characterized in that the cold gas consists of a low-reactivity gas.
5. (original) The protective gas according to Claim 4, characterized in that the cold gas is nitrogen.
6. (canceled)
7. (new) In a method for the non-vacuum electron-beam welding of metallic materials, the improvement being in using a protective gas consisting of a cold gas.
8. (new) The method of claim 7, characterized in that the metallic materials are light metals.
9. (new) The method of claim 7, characterized in that the cold gas is an inert gas.
10. (new) The method of claim 7, characterized in that the cold gas is a low-reactivity gas.